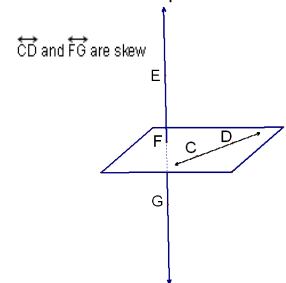
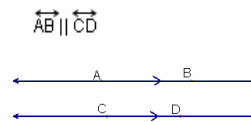


Chapter 3 Parallel and Perpendicular Lines

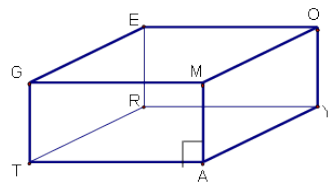
3-1 Parallel lines and transversals

Parallel lines (\parallel)-coplanar lines that do not intersect

Skew lines -lines that do not intersect and are not coplanar



Parallel planes-planes that do not intersect

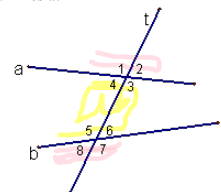


plane $GEO \parallel$ plane TRY
 $\overline{GE} \parallel \overline{MO}$
 \overline{RE} & \overline{TA} are skew

Transversal--a line that intersects 2 or more coplanar lines at different points

interior angles

exterior angles



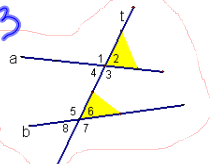
Corresponding Angles-two angles that occupy corresponding positions.

$$\angle 2 \leftrightarrow \angle 6$$

$$\angle 1 \leftrightarrow \angle 5$$

$$\angle 4 \leftrightarrow \angle 8$$

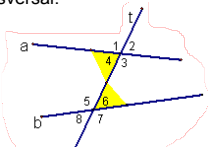
$$\angle 7 \leftrightarrow \angle 3$$



Alternate interior angles-two angles that lie between the two lines and are on opposite sides of the transversal.

$$\angle 4 \leftrightarrow \angle 6$$

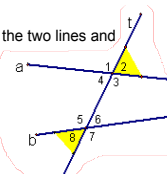
$$\angle 3 \leftrightarrow \angle 5$$



Alternate exterior angles-two angles that are on the outside of the two lines and are on opposite sides of the transversal.

$$\angle 2 \leftrightarrow \angle 8$$

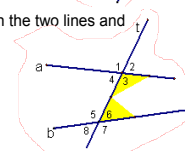
$$\angle 1 \leftrightarrow \angle 7$$



Same-side interior angles-two angles that lie between the two lines and are on the same side of the transversal.

$$\angle 3 \leftrightarrow \angle 6$$

$$\angle 4 \leftrightarrow \angle 5$$



Open books to page 128

2. **FIND THE ERROR** Juanita and Eric are naming alternate interior angles in the figure at the right. One of the angles must be $\angle 4$.

Juanita

$\angle 4$ and $\angle 9$

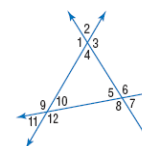
$\angle 4$ and $\angle 6$

Eric

$\angle 4$ and $\angle 10$

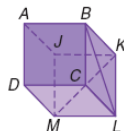
$\angle 4$ and $\angle 5$

Who is correct? Explain your reasoning.



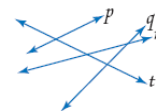
For Exercises 4–6, refer to the figure at the right.

4. Name all planes that intersect plane ADM .
5. Name all segments that are parallel to \overline{CD} .
6. Name all segments that intersect \overline{KL} .



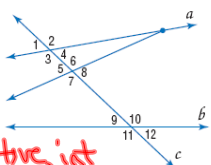
Identify the pairs of lines to which each given line is a transversal.

7. p
8. r
9. q
10. t



Identify each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, or *consecutive interior* angles.

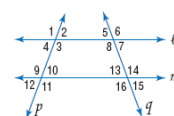
11. $\angle 7$ and $\angle 10$
12. $\angle 1$ and $\angle 5$
13. $\angle 4$ and $\angle 6$
14. $\angle 8$ and $\angle 1$



consecutive int
(same side int)

Name the transversal that forms each pair of angles. Then identify the special name for the angle pair.

15. $\angle 3$ and $\angle 10$
16. $\angle 2$ and $\angle 12$
17. $\angle 8$ and $\angle 14$



HW

p129-130

22-27, 32-47